

(19)



Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11)

EP 1 077 086 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
17.07.2002 Bulletin 2002/29

(51) Int Cl.7: B01L 3/14, B65D 51/00

(43) Date of publication A2:  
21.02.2001 Bulletin 2001/08

(21) Application number: 00117621.3

(22) Date of filing: 16.08.2000

(84) Designated Contracting States:  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE  
Designated Extension States:  
AL LT LV MK RO SI

(30) Priority: 18.08.1999 US 149580 P

(71) Applicant: Becton, Dickinson and Company  
Franklin Lakes, New Jersey 07417 (US)

(72) Inventors:  
• Niermann, Volker  
Little Falls, New Jersey 07242 (US)  
• Iskra, Michael J.  
Bridgewater, New Jersey 08807 (US)

(74) Representative:  
von Kreisler, Alek, Dipl.-Chem. et al  
Patentanwälte,  
von Kreisler-Selting-Werner,  
Bahnhofsvorplatz 1 (Deichmannhaus)  
50667 Köln (DE)

### (54) Stopper-shield assembly

(57) The present invention is a stopper and shield closure assembly 16 millimeter (mm) fluid collection tube whereby the 16 millimeter tube is compatible with conventional needle holders.

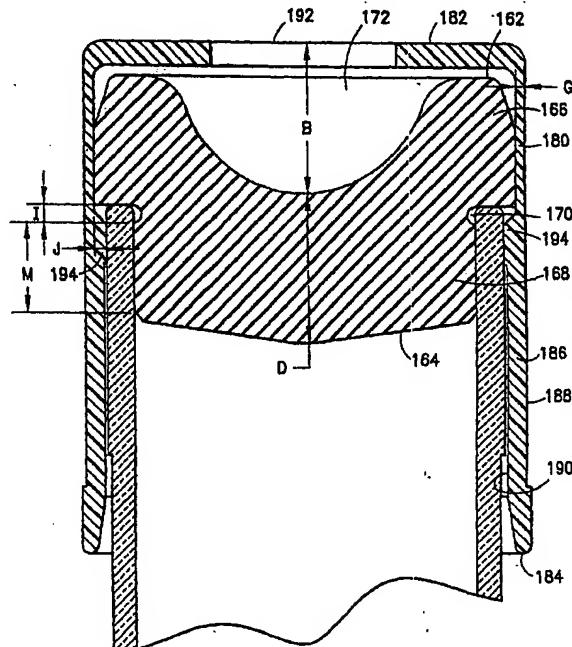


FIG.9

EP 1 077 086 A3



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 00 11 7621

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
X	US 4 967 919 A (EARHART STEPHEN B) 6 November 1990 (1990-11-06)	2	B01L3/14 B65D51/00						
Y	* column 3, line 43 - column 4, line 64; figure 1 *	1							
Y	US 5 361 921 A (BURNS JAMES A) 8 November 1994 (1994-11-08) * column 3, line 5 - column 3, line 22 * * column 4, line 6 - column 4, line 36; figures 1,4 *	1							
X,P	US 2001/020607 A1 (CHIARIN RENZO) 13 September 2001 (2001-09-13) * paragraph '0017! - paragraph '0018! * * paragraph '0035! - paragraph '0050!; figures 1,6 * & IT PD980167 A1 (MEUS SRL (IT)) 3 January 2000 (2000-01-03)	1							
A	US 5 060 659 A (FIEHLER WILLIAM R ET AL) 29 October 1991 (1991-10-29) * column 5, line 36 - column 5, line 61 *	1	TECHNICAL FIELDS SEARCHED (Int.Cl.7)						
A	US 4 441 951 A (CHRISTINGER WERNER) 10 April 1984 (1984-04-10) * column 2, line 9 - column 3, line 9; figure 5 *	1,2	B01L B65D A61B						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 33%;">Examiner</td> </tr> <tr> <td>MUNICH</td> <td>28 May 2002</td> <td>Smith-Hewitt, L</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	MUNICH	28 May 2002	Smith-Hewitt, L
Place of search	Date of completion of the search	Examiner							
MUNICH	28 May 2002	Smith-Hewitt, L							
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>&amp; : member of the same patent family, corresponding document</p>									

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 00 11 7621

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
 The members are as contained in the European Patent Office EDP file on  
 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

28-05-2002

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 4967919	A	06-11-1990	CA	1311978 A1	29-12-1992
US 5361921	A	08-11-1994	AU	674071 B2	05-12-1996
			AU	6484894 A	12-01-1995
			CA	2126527 A1	30-12-1994
			DE	69409718 D1	28-05-1998
			DE	69409718 T2	15-10-1998
			EP	0634339 A1	18-01-1995
			ES	2115880 T3	01-07-1998
			JP	2608685 B2	07-05-1997
			JP	7051254 A	28-02-1995
US 2001020607	A1	13-09-2001	NONE		
US 5060659	A	29-10-1991	US	4893636 A	16-01-1990
US 4441951	A	10-04-1984	US	4295477 A	20-10-1981